Combining New Knowledge with Real-World Skills

Suites place both student and curriculum in a real-world setting with real-world expectations. Students apply what they learn, work as a team, employ problem solving, and demonstrate newly acquired leadership skills. And when combined with core content acquisition, Suites offer students a giant step towards success on whatever career paths they may follow.

The Suites environment is unique and is an integral component to teach some of the most important and most difficult concepts that high schools are challenged to teach. Each Suite, through multimedia instructions and theme-based experiences, mixes careers, teamwork, communication, critical thinking, and quality management into a nine-week curriculum.

Students solve problems by using technology and working as a team. The curriculum facilitates three student pairs who, together, create a team of six that functions completely within the work environment to learn content and solve real-world problems.

A Unique Learning Environment For a One-of-a-kind Learning Experience

The Suite workstation brings the Suite Team together into a self-contained workspace. All six team members work together in the Suite for nine weeks, exploring the Suite topic while engaging in real-world skills like teamwork and problem solving.

A Suite is composed of three Harbors. At each Harbor workstation, two members of the Suite Team explore a unique area of the Suite topic. Each Harbor team then contributes their specialized knowledge to the solution of the team challenge, helping make the solution truly a team effort.

The team table is the hub of the Suite Team's activities. They meet around the team table to brainstorm solutions to the Team Challenge, using the table's dry-erase top as an endless canvas for their team's ideas.

University High School
STEM 9th Grade Course Tech Issues
1000 W. Rhode Island Ave.
Orange City, FL 32763

SUITES

WELCOME TO

University High School

STEM 9th Grade Course Tech Issues

This program was implemented through

PITSCO EDUCATION

AgriBiotechnology Suite

AgriScience & Society Harbor
Students do DNA extractions and model structures of chromosomes, DNA, and RNA. Students also model the processes of DNA replication, mitosis, meiosis, transcription, and translation. They explore the importance of genetic engineering in modern agriculture and food production.

Quality Control Harbor
Students learn and perform the duties of a quality control team member in a biotechnology laboratory. They practice laboratory safety techniques, learn quality-assurance methods, collect and analyze data, and practice preparing protocols and laboratory reports.

Research & Development Harbor
Students learn the technique of gel electrophoresis and how it is used in analyzing DNA and protein molecules. They write and follow experimental protocols, conduct gel electrophoresis, and prepare a technical report of their results.

Engineering Suite

Analysis & Testing Harbor
Students develop an understanding of electricity, learn about the relationships among various electrical measurements, and explore renewable and nonrenewable energy sources. Students also use software to design electrical circuits.

Physics Harbor
Students explore the laws and science of physics and their applications to the field of engineering and use physics to explain aspects of construction engineering. Students also explore the behavior of objects in motion and the interactions between objects.

Planning & Design Harbor
Students learn the typical responsibilities of engineers, learn to visually record ideas by sketching, and receive a basic introduction to computer-aided drafting. Students use software to create CAD drawings, manage a project, and track and calculate project costs.

Forensic Science Suite

Crime Lab Harbor
Students learn what happens to collected evidence. They understand how evidence is examined and about specific traits that link a suspect sample to crime scene samples. Students examine hairs, fibers, blood, tissues, soils, and more.

Crime Scene Harbor
Students learn procedures for evidence collection; explore classifications for evidence; and use crime scene equipment to collect trace evidence such as hairs, fibers, and fingerprints. They collect visible and latent prints with black and fluorescent powders and CA fuming techniques.

Evidence Analysis Harbor
Students learn investigative techniques homicide detectives use in the field. They create composite sketches, understand how victimology and psychological profiling are useful tools when solving crimes, and learn the medical examiner's role in criminal investigations.

Genetics Suite

DNA Harbor
In this Harbor, students study the DNA molecule and its importance to genetics. Students construct model DNA and RNA molecules, extract sample DNA, and model the processes of DNA translation and transcription. Students explore various genetic disorders.

Heredity Harbor
In this Harbor, students explore the history of classical genetics and explore modern genetics. Students use Punnett squares to examine possible gene combinations. Students build and interpret pedigrees to assess risks related to genetic disorders.

Reproduction Harbor
Students in this Harbor explore the process of reproduction. Asexual and sexual reproduction are defined, compared, and contrasted. Students learn techniques of digital microscopy, including oil immersion microscopy. Students explore and model meiosis and mitosis. Students learn karyotyping techniques.

Intelligent Systems Suite

BioRobotics Harbor
In the BioRobotics Harbor, students learn how robotics are employed in modern medicine and science, design and test robotic manipulations, and investigate various robotic components. Students examine advantages robotics have brought to industry and learn about Isaac Asimov's contribution to robotics.

Dynamic Logic Harbor
In the Dynamic Logic Harbor, students use Boolean logic to learn how computer-controlled systems process information and make decisions. Students build and program a working robot and write, download, and test computer programs while learning NXT.

Sensory Imaging Harbor
In the Sensory Imaging Harbor, students learn the basic concept of a sensor and how human senses can be replicated in robots. Students build a vehicle, utilize two new sensors, define and compare force and torque, and become familiar with electrical terms.